

REMARKS

Entry of the foregoing and favorable reconsideration and reexamination of the subject application, as amended, pursuant to and consistent with 37 C.F.R. Section 1.112, and in light of the remarks which follow, are respectfully requested.

Status of the Claims

By the present amendment, Claims 9 to 13, 15, 17 and 18 have been amended to further clarify the present invention. Claims 27 to 33 have been added. Applicants submit that no new matter has been added via this amendment.

Rejections under 35 U.S.C. § 112, second paragraph

Claims 9 to 12, 17 and 18 have been rejected under 35 U.S.C. §112, second paragraph as being indefinite. This rejection should be obviated-in-part by amendment and is being traversed-in-part.

More specifically claims 9 and 10 have been amended to recite 80% sequence identity with SEQ ID No: 3; claim 10 has been amended to delete “the latter preferably being located between the two sequences in a);” claim 12 has been amended to comprising and deduced from the degeneracy of the genetic code” has been deleted; and Claims 17 and 18 now have sufficient antecedent basis.

With respect to the terminology of a sequence hybridizing to a sequence under stringent conditions, at least page 11 of the specification describes that the stringent conditions are described in Sambrook and Russell (3rd edition, 2001, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY. It is well known in this art that to temperature, salt concentrations, as well as GC content all play a role in hybridization stringency. Therefore, when read in light of

the specification the person skilled in the art would know precisely what stringent conditions are necessary. Therefore, Applicants submit that “hybridizing under stringent conditions” is definite.

In view of the above, withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 112, first paragraph

Claims 9 to 18 have been rejected under 35 U.S.C. §112, first paragraph as lacking enablement. For the following reasons, this rejection is respectfully traversed.

In rendering this rejection the Examiner purports that the specification is not enabling for the recitation of a isolated nucleic acid having a nucleic acid sequence, having at least 80% sequence identity to SEQ ID NO: 3 or 4 or the plasmid I-2649. Applicants respectfully disagree with the Examiner’s conclusion for the following reasons.

First of all the specification clearly indicates at least on page 10 that the degree of sequence similarity can be conventionally determined using software such as Clustal W and three specific sites are given in the patent specification to obtain the sequence similarity. Moreover, it was well known in this art that the NCBI database was established in 1988 and that nucleotide sequence comparison could also be performed within this database.

Since the sequences such as SEQ ID Nos: 3 and 4 are specifically described in the specification, as well as the deposited plasmid, which a person skilled in the art can obtain, Applicants submit that it would not be undue experimentation to obtain a sequence with 80% homology.

Moreover, the specification clearly describes that to maintain catalytic activity the person skilled in the art should maintain the triad Asp/Glu/Asp at positions 2210/2248/2322 and thus the corresponding nucleotide sequences at these positions. Moreover the specification discloses that to catalyze the formation of $\alpha(1\rightarrow2)$ osidic bonds depends on the concatenation of a glucan binding domain and a catalytic domain and more particularly the CD2 catalytic domain, which is found in the carboxylic portion of the protein. Each of these domains are defined in the specification.

The specification also provides guidance for the modification of SEQ ID No:4 such that there are conserved nucleotides. At page 16, for example, one skilled in the art would conserve TGG at positions 1273 and 6364; GAA at positions 1288, 1693, 6379 and 6742; GAT at positions 1459, 1465, 1579, 1912, 6508 and 6628; GAT at position 1909 and CAC at position 6961; CAA at position 3055 and CAG at position 8080.

Hence the skilled artisan would not make random modifications, but would make conservative modifications. This is due to the high level of skill in this art; i.e., a PhD with at least postdoctoral work.

Furthermore, once this sequence is obtained the skilled artisan would then test for enzymatic activity as described in the specification and more particularly the examples. Applicants submit that this type of assay is merely routine and would not involve undue experimentation.

Moreover with respect to Claim 13 and 18, Applicants are enclosing a Deposit of Microorganism to satisfy the deposit requirement.

Finally, with respect to those sequences that have at least 80% sequence identity, it is submitted that at the time of filing of the present invention a skilled artisan could easily obtain

such sequences without undue experimentation. As stated in *Massachusetts Institute of Technology v. AB Fortia*, 774 F. 2d 1104, 227 USPQ 428 (Fed. Cir. 1985):

[T]he fact that experimentation may be complex...does not necessarily make it undue, if the art typically engages in such experimentation.

Therefore, in view of the above, withdrawal of this rejection is respectfully requested.

From the foregoing, favorable action in the form of a Notice of Allowance is respectfully requested and such action is earnestly solicited.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Conclusion


In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact MaryAnne Armstrong, Ph.D., Reg. No. 40,069 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

By  _____

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Attachment: Declaration regarding Deposit of Microorganisms